Author index, Volume 25

Afanassyev IS → Moroz NK
Ahsbahs H → Zhang L
Aikawa N → Shinoda K
Aken PA van, Liebscher B, Styrsa VJ: Core level electron energy-loss spectra of minerals: pre-edge fine structures at the oxygen *K*-edge.Comment on *"Water in minerals detectable by electron energy-loss spectroscopy EELS"* by R. Wirth, Phys Chem Minerals (1997) 24:561–568 494
Aken PA van, Liebscher B, Styrsa VJ: Quantitative determination of iron oxidation states in minerals using Fe $L_{2,3}$-edge electron energy-loss near-edge structure spectroscopy 323
Aken PA van, Sharp TG, Seifert F: Electron-beam induced amorphization of stishovite: Silicon-coordination change observed using Si *K*-edge extended electron energy-loss fine structure 83
Allan DR → Miletich R
Amthauer G → Schmidbauer E
Andrut M → Gottschalk M
Andrut M → Platonov AN
Angel RJ, McCammon C, Woodland AB: Structure, ordering and cation interactions in Ca-free $P2_1/c$ clinopyroxenes 249
Angel RJ → Miletich R
Assink RA → Myers SA

Bai Q, Wang Z-C, Kohlstedt DL: Manganese olivine II: point defect relaxation 122
Bancroft GM → Kasrai M
Béjina F → Raterron P
Belitsky IA → Moroz NK
Bell MI → McKeown DA
Bellotto M → Gualtieri A
Belonoshko AB: Melting of corundum using conventional and two-phase molecular dynamic simulation method 138
Biino GG, Gröning P: Cleavage mechanism and surface chemical characterization of phengitic Muscovite and Muscovite as constrained by X-Ray Photoelectron Spectroscopy 168
Bocquet S, Cashion JD, Cook PS: Paramagnetic relaxation of ferric "oxyhydroxide" in Victorian brown coal and its structural implications 328
Boehler R → Serghiou G
Boisen MB → Gibbs GV
Boisen MBJr → Feth S
Boisen MBJr → Sueno S
Boslough MB → Myers SA
Boström D → Osadchii E

Cabaret D → Ildefonse Ph
Calas G → Ildefonse Ph
Carbonin S → Menegazzo G
Cashion JD → Bocquet S
Čapková P → Weiss Z
Chateigner D → Manceau A
Chelikowsky JR → Christie DM
Chen G → Sinelnikov YD
Chopelas A → Serghiou G
Christie DM, Chelikowsky JR: Structural properties of α-berlinite ($AlPO_4$) 222
Coey JMD → Goulart AT
Cook PS → Bocquet S
Cordier P, Sharp TG: Large angle convergent beam electron diffraction determinations of dislocation Burgers vectors in synthetic stishovite 548
Cygan RT → Myers SA

De Grave E, Van Alboom A, Eeckhout SG: Electronic and magnetic properties of a natural aegirine as observed from its Mössbauer spectra 378
De Vita A → McConnell JDC
Demartin F → Pilati T
Dickinson JT → Scudiero L
Dollase WA: Transformations of the stuffed cristobalites, K_2MSiO_4, M=Mg, Zn, Co, Cd, with temperature and composition 389
Doukhan JC → Raterron P
Doukhan J-C → Dupas-Bruzek C
Doukhan N → Dupas-Bruzek C
Dove MT → Myers ER
Downs RT → Gibbs GV
Downs RT → Yang H
Dubrovinsky LS, Saxena SK, Lazor P: High-pressure and high-temperature in situ X-ray diffraction study of iron and corundum to 68 GPa using an internally heated diamond anvil cell 434
Dupas-Bruzek C, Tingle TN, Green II HW, Doukhan N, Doukhan J-C: The rheology of olivine and spinel magnesium germanate (Mg_2GeO_4): TEM study of the defect microstructures 501

Eccleston RS → Winkler B
Eeckhout SG → De Grave E
Enomoto Y → Scudiero L

Fabris JD → Goulart AT
Fei Y → Linton J
Feth S, Gibbs GV, Boisen MBJr, Hill FC: A study of the bonded interactions in nitride molecules in terms of bond critical point properties and relative electronegativities 234
Fett A → Khomenko VM
Finger LW → Yang H
Flank A-M → Ildefonse Ph
Fleet ME → Kasrai M
Furche A, Langer K: Polarized electronic absorption spectra of Cr_2SiO_4 single crystals 393
Fursenko BA → Moroz NK

Gates WP → Manceau A
Geiger CA → Kolesov BA
Ghiorso MS: Thermodynamic analysis of the effect of magnetic ordering on miscibility gaps in the FeTi cubi and rhombohedral oxide minerals and the FeTi oxide geothermometer 28
Gibbs GV, Boisen MB, Hill FC, Tamada O, Downs RT: SiO and GeO bonded interactions as inferred from the bond critical point properties of electron density distributions 574
Gibbs GV, Hill FC, Boisen MB, Downs RT: Power law relationships between bond length, bond strength and electron density distributions 585
Gibbs GV → Feth S
Gibbs GV → Sueno S
Gottschalk M, Andrut M: Structural and chemical characterization of synthetic (Na,K)-richterite solid solutions by EMP, HRTEM, XRD and OH-valence vibrational spectroscopy 101
Gottschalk M, Najorka J, Andrut M: Structural and compositional characterization of synthetic (Ca,Sr)-tremolite and (Ca,Sr)-diopside solid solutions 415
Goulart AT, Jesus Filho MF de, Fabris JD, Coey JMD: Multiple Iron-Rich Spinel Phases and Hematite in a Magnetic Soil Developing on Tuffite 63
Gramaccioli CM → Pilati T
Green II HW → Dupas-Bruzek C
Gröning P → Biino GG
Gualtieri A, Bellotto M: Modelling the structure of the metastable phases in the reaction sequence kaolinite-mullite by X-ray scattering experiments 442
Gupta BRK → Pal V

Han XJ → Iishi K
Harris MJ → Winkler B
Hattori T → Kato M
Hazen RM → Yang H
Heine V → McConnell JDC
Heine V → Myers ER
Heine V → Pryde AKA
Hennion B → Winkler B
Hill FC → Feth S
Hill FC → Gibbs GV

Iishi K, Torigoe K, Han XJ: Oriented precipitate complexes in iron-rich olivines produced experimentally in aqueous oxidizing environment 8
Ildefonse Ph, Cabaret D, Sainctavit Ph, Calas G, Flank A-M, Lagarde P: Aluminium X-ray absorption Near Edge Structure in model compounds and Earth's surface minerals 112
Ingrin J → Richet P
Ishida K: Cation disordering in heat-treated anthophyllites through oxidation and dehydrogenation 160

Janeba D → Weiss Z
Jaoul O → Raterron P
Jesus Filho MF de → Goulart AT
Julg A: A theoretical study of the absorption spectra of Pb^+ and Pb^{3+} in site K^+ of microcline: application to the color of amazonite 229

Kanzaki M → Kudoh Y
Kasrai M, Fleet ME, Muthupari S, Li D, Bancroft GM: Surface modification study of borate materials from B K-edge X-ray absorption spectroscopy 268
Kato M, Hattori T: Ordered distribution of aluminum atoms in analcime 556
Kenny SD → McConnell JDC
Keppler H → Zotov N
Khomenko VM, Langer K, Rager H, Fett A: Electronic absorption by Ti^{3+} ions and electron delocalization in synthetic blue rutile 338
Kirkinskii VA → Kuryaeva RG
Klika Z → Weiss Z
Klotz S → Parise JB
Knorr K → Winkler B
Kohlstedt DL → Bai Q
Kolesov BA, Geiger CA: Raman spectra of silicate garnets 142
Koshchug DG, Solovyov YuP: Accumulation of structural radiation defects in quartz in cooling systems: basis for dating 242
Kozubová S → Weiss Z
Kudoh Y, Kanzaki M: Crystal chemical characteristics of α-$CaSi_2O_5$, a new high pressure calcium silicate with five-coordinated silicon synthesized at 1500 °C and 10 GPa 429
Kumar M → Pal V
Kurita K → Taura H
Kuryaeva RG, Kirkinskii VA: Influence of high pressure on the refractive index and density of tholeiite basalt glass 48
Kutoglu A → Zhang L

Lagarde P → Ildefonse Ph
Langer K → Furche A
Langer K → Khomenko VM
Langer K → Platonov AN
Lazor P → Dubrovinsky LS
Li D → Kasrai M
Li R → Parise JB
Liebermann RC → Raterron P
Liebermann RC → Sinelnikov YD
Liebscher B → Aken PA van
Linton J, Navrotsky A, Fei Y: The Thermodynamics of Ordered Perovskites on the $CaTiO_3$-$FeTiO_3$ Join 591
Loveday JS → Parise JB
Lunin S → Osadchii E

Manceau A, Chateigner D, Gates WP: Polarized EXAFS, distance-valence least-squares modeling (DVLS), and quantitative texture analysis approaches to the structural refinement of Garfield nontronite 347
Marshall WG → Parise JB
Marumo F → Okui M
Matsui M → Tsuchiya T
Matsuura S → Sueno S
Matsyuk SS → Platonov AN
McCammon C → Angel RJ
McCammon CA: The crystal chemistry of ferric iron in $Fe_{0.05}Mg_{0.95}SiO_3$ perovskite as determined by Mössbauer spectroscopy in the temperature range 80–293 K 292
McConnell JDC, De Vita A, Kenny SD, Heine V: Determination of the origin and magnitude of Al/Si ordering enthalpy in framework aluminosilicates from ab initio calculations 15
McKeown DA, Bell MI: Linked four-membered silicate rings: vibrational analysis of Gillespite, $BaFeSi_4O_{10}$ and implications for glass structure 273
Mendelssohn MJ, Price GD: Computer modelling of a pressure induced phase change in clinoenstatite pyroxenes 55
Menegazzo G, Carbonin S: Oxidation mechanisms in Al-Mg-Fe spinels. A second stage: α-Fe_2O_3 exsolution 541
Miletich R, Allan DR, Angel RJ: Structural control of polyhedral compression in synthetic braunite, $Mn^{2+}Mn^{3+}{}_6O_8SiO_4$ 183
Moroz NK, Afanassyev IS, Fursenko BA, Belitsky IA: Ion mobility and dynamic disordering of water in analcime 282
Muthupari S → Kasrai M
Myers ER: A statistical-mechanics model of ordering in aluminosilicate solid solutions 465
Myers ER, Heine V, Dove MT: Thermodynamics of Al/Al avoidance in the ordering of Al/Si tetrahedral framework structures 457
Myers SA, Cygan RT, Assink RA, Boslough MB: ^{29}Si MAS NMR relaxation study of shocked Coconino Sandstone from Meteor Crater, Arizona 313
Mysen BO → Richet P

Nagai T, Yamanaka T: Structural modifications of $CaGeO_3$-wollastonite under room temperature pressurization 1
Najorka J → Gottschalk M
Navrotsky A → Linton J

Okui M, Sawada H, Marumo F: Structure refinement of a nonstoichiometric pyroxene synthesized under ambient pressure 318
Oliver PM → Watson GW
Osadchii E, Boström D, Lunin S, Rosén E: Thermodynamic properties of dyscrasite (Ag_3Sb) at isostatic pressures 4000–8000 bar 288

Pal V, Kumar M, Gupta BRK: A simple approach for the determination of bulk modulus and equation of state under the effect of high temperature for minerals 227
Parise JB, Theroux B, Li R, Loveday JS, Marshall WG, Klotz S: Pressure dependence of hydrogen bonding in metal deuteroxides: a neutron powder diffraction study of $Mn(OD)_2$ and β-$Co(OD)_2$ 130
Parker SC → Watson GW
Partzsch G → Platonov AN
Pilati T, Demartin F, Gramaccioli CM: Lattice-dynamical evaluation of atomic displacement parameters for coesite from an empirical force field with implications on thermodynamic properties 152
Platonov AN, Tarashchan AN, Langer K, Andrut M, Partzsch G, Matsyuk SS: Electronic absorption and luminescence spectroscopic studies of kyanite single crystals: differentiation between excitation of FeTi charge transfer and Cr^{3+} dd transitions 203
Pratt AR: Vivianite auto-oxidation 24
Prewitt CT → Yang H
Price GD → Mendelssohn MJ
Pryde AKA, Heine V: Analysis of the incommensurately modulated OS phase of SiO_2 tridymite 603

Rager H → Khomenko VM
Raterron P, Béjina F, Doukhan JC, Jaoul O, Liebermann RC: Olivine/Fe-metal equilibrium under high pressure: an ATEM investigation 485
Richet P, Mysen BO, Ingrin J: High-temperature X-ray diffraction and Raman spectroscopy of diopside and pseudowollastonite 401
Rosén E → Osadchii E
Ross NL: High pressure study of $ScAlO_3$ perovskite 597

Sainctavit Ph → Ildefonse Ph
Sawada H → Okui M
Saxena SK → Dubrovinsky LS
Schmidbauer E, Amthauer G: Study of the electrical charge transport in ilvaite using impedance spectroscopy and thermopower data 522
Scudiero L, Dickinson JT, Enomoto Y: The electrification of flowing gases by mechanical abrasion of mineral surfaces 566
Seifert F → Aken PA van
Serghiou G, Zerr A, Chopelas A, Boehler R: The transition of pyrope to perovskite 193
Sharp TG → Aken PA van
Sharp TG → Cordier P
Shinoda K, Aikawa N: Interlayer proton transfer in brucite under pressure by polarized IR spectroscopy to 5.3 GPa 197
Sinelnikov YD, Chen G, Liebermann RC: Elasticity of $CaTiO_3$–$CaSiO_3$ perovskites 515
Solovyov YuP → Koshchug DG
Styrsa VJ → Aken PA van
Sueno S, Matsuura S, Gibbs GV, Boisen MBJr: A crystal chemical study of protoanthophyllite: orthoamphiboles with the protoamphibole structure 366
Sueno S → Taura H

Tamada O → Gibbs GV
Tarashchan AN → Platonov AN
Taura H, Yurimoto H, Kurita K, Sueno S: Pressure dependence on partition coefficients for trace elements between olivine and the coexisting melts 469
Theroux B → Parise JB
Tingle TN → Dupas-Bruzek C
Torigoe K → Iishi K
Tossell JA: Calculation of the NMR shielding of O in MgO at high temperature 453

Tsuchiya T, Yamanaka T, Matsui M: Molecular dynamics study of the crystal structure and phase relation of the GeO_2 polymorphs 94
Van Alboom A → De Grave E

Wang Z-C → Bai Q
Watson GW, Oliver PM, Parker SC: Computer simulation of the structure and stability of forsterite surfaces 70
Weiss Z, Klika Z, Čapková P, Janeba D, Kozubová S: Sodium-cadmium and sodium-zinc exchangeability in montmorillonite 534
Winkler B, Harris MJ, Eccleston RS, Knorr K, Hennion B: Crystal field transitions in $Co_2[Al_4Si_5]O_{18}$ cordierite and $CoAl_2O_4$ spinel determined by neutron spectroscopy 79
Wirth R: Water in minerals detectable by electron energy-loss spectroscopy EELS 182
Wirth R: Water in minerals detectable by electron energy-loss spectroscopy EELS. Reply to "Core level electron energy-loss spectra of minerals: pre-edge fine structures at the oxgen *K*-edge" by P.A. van Aken, B. Liebscher, V.J. Styrsa, Phys Chem Minerals (1998) 25:494–498 499
Woodland AB → Angel RJ

Yamanaka T → Nagai T
Yamanaka T → Tsuchiya T
Yang H, Hazen RM, Finger LW, Prewitt CT, Downs RT: Compressibility and crystal structure of sillimanite, Al_2SiO_5, at high pressure 39
Yurimoto H → Taura H

Zerr A → Serghiou G
Zhang L: Single crystal hydrostatic compression of $(Mg,Mn,Fe,Co)_2SiO_4$ olivines 308
Zhang L, Ahsbahs H, Kutoglu A: Hydrostatic compression and crystal structure of pyrope to 33 GPa 301
Zheng Y-F: Oxygen isotope fractionation between hydroxide minerals and water 213
Zotov N, Keppler H: The structure of sodium tetrasilicate glass from neutron diffraction, reverse Monte Carlo simulations and Raman spectroscopy 259

Subject index, Volume 25

All mineral names occuring in titles, subtitles and abstracts are indexed Chemical formulae are according to M. Fleischer, Glossary of Mineral Species, 1983 (in some cases simplified) or as given by the author. The numbers refer to the title page.

A

Aegirine, $NaFe^{3}+Si_2O_6$,
electronic and magnetic properties 378
Al/Al avoidance
(Loewenstein's rule) 457
Alkali feldspar,
electronic aborption of Pb^+ and Pb^{3+} in – and color of amazonite 229
Almandine, $Fe_3Al_2(SiO_4)_3$
Raman spectra of synthetic 151
Analcime, $NaAlSi_2O_6 * H_2O$
ion mobility and dynamic disordering of water in – 282
ordered distribution of Al in 556
Andradite, $Ca_3Fe_2(SiO_4)_3$
Raman spectra of synthetic 151
Anthophyllite,
$(Mg,Fe)_7Si_8O_{22}(OH)_2$ 160
Amphibole group,
anthophyllites 160
orthoamphiboles with the protoamphibole structure 366
synthetic (Ca, Sr)-tremolites 415
– (Na, K)-richterites 101

B

Berlinite, α -AlPO4
ab initio calculations of structural properties under pressure 222
Braunite,
$Mn^{2+}Mn_6^{3+}O_8SiO_4$
polyhedral compression in 183
Brucite, Mg(OH)2
interlayer proton transfer in –, under pressure 197
^{18}O enrichment in 213

C

Calcium silicate, α-$CaSi_2O_5$
new high pressure phase weith five-coordinated silicon 429
Cation distribution,
in iron bearing spinel and oxidation mechanism 541
Charge Transfer,
$Fe^{2+}Fe^{3+}$ in an iron bearing perovskite-type 292
$Fe^{2+}Ti^{4+}$ in kyanites 203
$Ti^{3+}Ti^{4+}$ in a blue rutile 338
Cleavage,
mechanism in muscovites and characterization of surfaces produced 168
Coal,
structural characteristics of iron in Victorian brown – from magnetic properties 328
Coesite, SiO_2
displacement parameters of – and thermodynamic properties 152
in shocked Coconino sandstone by ^{29}Si NMR 313
Compressibility,
of pyrope 301
of sillimanite 39
polyhedral, in braunite, structural control of 183
–, in $ScAlO_3$ perovskite 597
Corundum, Al_2O_3
melting of, molecular dynamical modelling of 138
pVT-data up to 68 GPa 434
Cordierite type,
$Co_2Al_4Si_5O_{18}$, crystal field transitions in 79
Cristobalite type phases,
stuffed, structural transformations of on changing temperature and composition 389
Cr^{2+}-orthosilicate, Cr_2SiO_4
polarized electronic absorption spectra 393
Crystal field,
splitting of Fe^{3+} in aegirine 378
-transitions in Co-cordierite and -aluminate spinel 79
– of Cr^{3+} in natural kyanites 203
Crystal structure,
and phase relations of GeO_2 polymorphs, molecular dynamics study of 94
of a nonstoichiometric, synthetic clinopyroxene 318
of berlinite under pressure from ab initio calculations 222
of α-$CaSi_2O_5$, five coordinated silicon in 429
of clinopyroxenes $P2_1/c$, ordering and cation interactions in 249
of metastable phases in the sequence kaolinite-mullite 442
of olivine endmembers at high hydrostatic pressures 308
of protoferro- and protomangano-ferro-anthophyllite 366
of pyrope at high pressure 301
of $ScAlO_3$ perovskite at high pressure 597
of sillimanite at high pressure 39
of stuffed cristobalite-type phases 389
structural modifications of wollastonite type $CaGeO_3$ at high pressures 1

D

Danburite, $CaB_2Si_2O_8$
surface of – from B K-edge X-ray spectroscopy 268
Dating,
accumulation of radiative defects in quartz as a basis for 242
Dehydrogenation,
and oxidation mechanism in anthophyllites 160
Defects,
dislocations in synthetic stishovite and large angle convergent electron diffraction 548
in a synthetic, nonstoichiometric clinopyroxene 318
in olivine equilibrated with iron at high pressure 485
oriented planar, of laihunite in oxidized olivine 8
point defects in tephroite, structural relaxation of 122
radiation – in quartz, accumulation of – – on cooling 242
Diaspore, α-AlO(OH)
^{18}O enrichment in 213
Diopside, $CaMgSi_2O_6$
synthetic (Ca,Mg)-, structural and chemical characterization 415
thermal expansion 401
Dyscrasite, Ag_3Sb
thermodynamic properies of 288

E

Earth,
surface minerals, X ray absorption spectra (XANES) at Al K-edge 112
Elasticity,
of perovskite-type $Ca(Ti,Si)O_3$ solid solutions 515
Electron diffracton,
large angle convergant – – of and dislocations in stishovite 548
Electrical properties,
charge transport in ilvaite 522
Electrochemical,
solid state cells, used to determine thermodynamic properties at high pressures 288
Electron density distribution,
and bond length bond strength relations 591
and SiO and GeO bond interactions 580
Electron energy loss spectroscopy (EELS), cf. X-ray spectroscopy
Electronegativities,
relative – and chemical bonding in nitride miolecules 234
Electronic absorption spectroscopy,
of a blue synthetic rutile 338
of Cr^{2+}-orthosilicate 393
of natural kyanites 203
of Pb^+ and Pb^{3+} in amazonite, theory of 229
Electronic properties,
of aegirine 378

F

Fayalite, Fe_2SiO_4
structure at high hydrostatic pressure 308
Forsterite, Mg_2SiO_4
structure and stabillity of surfaces of, atomistic modelling of 70
– at high hydrostatic pressure 308
Electron paramagnetic resonance (EPR),
of Ti^{3+} in a synthetic blue rutile 338
Exsolutions,
of hematite in AlMgFe spinels on oxidation 541

G

Garnet group,
Raman spectra of silicate garnets 142
Gibbsite, $Al(OH)_3$
^{18}O enrichment in 213
Gillespite, $BaFeSi_4O_{10}$
vibrational analysis of linked four-membered silicates in 273

Glass,
four-membered silicate rings in –, tetrahedral rings in gillespite
as models for – – – – – 273
sodium tetrasilicate –, structure of 259
tholeiitic –, pressure depemdence of refractive index and density of 48
Goethite, α-FeO(OH),
^{18}O enrichment in 213
Grossular, $Ca_3Al_2(SiO_4)_3$,
Raman spectra of synthetic 142

H

Hematite, Fe_2O_3
in a magnetic soill developing on tuffite 63
High pressure,
dependence of partition coefficients of trace elements in system olivine/melt on – 469
hydrogen bonding in $Mn(OD)_2$ and β-$Co(OD)_2$ at – 130
phase α-$CaSi_2O_5$, five-coordinated silicon in 429
phase transformations of pyrope 193
polymorphs of wollastonit type $CaGeO_3$ 1
refractive index and density of tholeiitic glass at – 48
sillimanite, crystal structure at – 39
solid state electrochemical cell, use at – 288
structure determination of braunite at – 183
– – – pyrope at hydrostatic – – 301
– – – $ScAlO_3$ perovskite at – 597
Hydrogen bonding,
in Mn- and Co-deuteroxides at high pressure 130

I

Ilvaite,
$CaFe_2^{2+}Fe^{3+}Si_2O_7O(OH)$
electrical charge transport in, from impedance spectroscopy and thermo-emf 522
Impedance spectroscopy,
on ilvaite 522
Incommensurably modulated phases,
tridymite OS phase 603
Infrared absorption spectra (IR),
OH-valence vibrational spectra and dehydrogenation and oxidation of anthophyllitesd 160
polarized, of brucite and interlayer proton transfer under pressure 197
– – – – of synthetic (Na,K)-richterites 101
evalution of –, in modelling displacement parameters in coesite 152
Iron,
pVT-data up to 68 GPa 434
Ion exchange,
of Na in montmorillonite by Cd and Zn 534
Isotope fractionation,
oxygen – – between hydroxide minerals and water 213

K

Kyanite, Al_2SiO_5
differentiation between FeTi charge transfer and Cr dd-transitions in natural 203

L

Laihunite, $Fe^{2+}Fe_2^{3+}(SiO_4)_2$
oriented precipitates of, in oxidized olivines 8
Local atomic structure,
in irradiation-amorphosized stishovite from X-ray absorption spectroscopy and transmission electron spectroscopy 83
Luminescence,
– spectroscopy of Cr^{3+} in kyanites 203

M

Magnetic properties,
of aegirine 378
of Fe-rich sinel phases and hematite in a magnetic soil 63
parmagnetic relaxation of frric iron in Victorian brown coal 328
Modelling,
atomistic of structure and stability of forterite surfaces 70
lattice dynamical, of pressure induced phase transitions in clinopyroxenes 55
– –, – vibrations of four-membered silicate rings in gillespite 273
molecular dynamical, of GeO_2 polymorphs 94
– –, of melting of corundum 138
of crystal strucures of metastable phases in the sequence kaolinite-mullite 442
of displacement parameters from vibrational frequencies 152
of NMR shielding of oxygen in periclase by Hartree-Fock calculations 453
of the ordering in aluminosilicate solid solutions by statistical mechanics 465
of the structure of sodium tetrasilicate glass by the Reverse Monte Carlo method 259
structural, of nontronite by distance-valence least-squares 347
thermodynamic, of the influence of magnetic order in magnetite-ulvöspinel and hematite-ilmenite solid solutions 28
Mössbauer spectroscopy,
cf. Nuclear gamma ray resonance (NGR)
Montmorillonite,
$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_{10} * nH_2O$
ion exchange of Na by Cd and Zn i 534

N

Neutron diffraction,
and structure of sodium tetrasilicate glass 259
of Mn- and Co-deuteroxides at high pressures 130
Neutron scattering,
inelastic magnetic –, and crystal field transitions in Co-cordierite and aluminate spinel 79
Nitride molecules,
chemical bond in 234
Nontronite, $Na_{0.3}Fe_2^{3+}(Si,Al)_4O_{10}(OH)_2 * nH_2O$
polarized EXAFS on – and refined structural data 347
Nuclear gamma ray resonance (NGR),
and dehydrogenation and oxidation of anthophyllites 160
of aegirine 578
of Fe-rich spinel phases and hematite in a magnetic soil 63
of ferric iron in an magnesium-iron-silicate perovskite 292
Nuclear magnetic resonance (NMR),
of ^{23}Al and Al/Si ordering in analcime 556
of ^{7}Li, ^{23}Na, ^{1}H and ion mobility and water disorder in analcime 282
of ^{29}Si in silica phases of shocked Coconino sandstone 313
shielding of ^{17}O – in periclase, calculation of – 453

O

Olivine, $(Mg,Fe)_2SiO_4$
defects in –, equilibrated with iron at high pressures 485
oriented laihunite pricipitates in, by oxidation of 8
partition coefficients for trace elements in system –/melt 469
Olivine group,
fayalite 308
forsterite 308
tephroite 122, 308
Olivine type,
Co_2SiO_4 308
Mg_2SiO_4, rheology of 501
Order/disorder,
Al/Si in analcime 556
in (Ca,Fe)-perovskites 574
in aluminosilicate solid solutions, statistical-mechanics model of 465
of Al/Si in tetrahedral framework structures an Al/Al avoidance, thermodynamics of 475
of cations in synthetic Ca-free clinopyroxenes 249
– – – heat-treated anthophyllites 160
Oxidation state
of iron in minerals from Fe $L_{2,3}$ edge EELS 323

P

Partition coefficients,
of trace elements between olivine and melt 469
Periclase, MgO
NMR shielding of oxygen in – 453
Perovskite-type,
$Ca(Ti,Si)O_3$ solid solutions, elasticity of 515
Fe^{3+}-bearing Mg-silicate, NGR-spectra of iron in 292
$ScAlO_3$, crystal structure of, at high pressures 597
Phase transition,
of pyrope to perovskite 193
pressure induced in clinopyroxenes, modelling of 55
Protoferro-anthophyllite,
$Fe_7Si_8O_{22}(OH)2$,
crystal structure of 366
Protomangano-ferro-anthophyllite, $Mn_2Fe_5Si_8O_{22}(OH)_2$,
crystal structure of 366
Protons,
interlayer transfer in brucite, under pressure 197
Pseudowollastonit, CaSiO3
thermal expansion 401
Pyrope, $Mg_3Al_2(SiO_4)_3$
Raman spectra of synthetic 142
structure at high hydrostatic pressure 301
transition to perowskite 193
Pyroxene group,
clinoenstatite-clinoferrosilite solid solutions, cation ordering in 249

pressure induced phase-transition in clinopyroxenes, modelling of 55
synthetic (Ca,Sr)-diopsides 415

Q

Quantum mechanics,
ab initio calculations of Al/Si ordering enthalpies in aluminosilicate frameworks 15
– – – – structural properties of berlinite under pressure 222
Hartree-Fock calculations of the NMR shielding of oxygen in periclase 453
Quartz, SiO_2
radiation defects in –, accumulation of – – on cooling 242

R

Raman spectra,
and structure of sodium tetrasilicate glass 259
– normal coordinate analysis of vibraitions in gillespite 273
of diopside and pseudowollastonit at high temperatures 4
Rheology of Mg-germanate olivine and spinel 501
Richterite,
$Na_2Ca\ Mg_5Si_8O_{22}(OH)_2$
synthetic (Na,K)-, structural and chemical characterization of synthetic 101

S

Secondary ion mass spectrometry (SIMS) alalysis,
of trace element distribution in system olivine/melt 469
Silca,
noncrystalline, desified hydrous – (phase D),
^{29}SI NMR of 313
Sillimanite, Al_2SiO_5
compressibility and crystal structure at high pressures 39
Spinel type,
$CoAl_2O_4$, crystal field transition in 79
iron-rich phases of, in a magnetic soil developing on tuffite 63
Mg_2GeO_4, rheology of 501
Solid solutions,
almandine-spessartine, pyrope-grossular, Raman spectra of 142
(Ca,Fe)-perovskite, thermodynamics of ordered 574
Ca- Sr- diopside and -tremolite 415
$Ca(Ti,Si)O_3$ with perovskite-type, elasticity of 515
aluminosilicate –, a statistical-mechanical model of ordring in 465
clinoenstatite-clinoferrosilite, cation orderting and interactions in 249
Na–K-richterite 101
magnetite-ulvöspinel, hematite-ilmenite, influence of long-range magnetic order in, on thermodynamic properties 28
Spinel, $MgAl_2O_4$
iron bearing, oxidation mechanism of 541
Stability relations,
of pyrope 193
Stishovite, SiO_2
amorphitization 83
in shocked Coconino sandstone by ^{29}Si NMR 313
Surfaces,
chemical characterization of –, of muscovites 168
dislocations in synthetic –, from electron diffraction 548
of borates from X-ray spectroscopy 268
of minerals, electricfication of flowing gases by mechasnica abrasion of 566
structure and stability of forsterite –, atomistic modelling of 70
Synthetic minerals,
almandine 142
andradite 142
braunite 183
clinopyroxene, nonstoichiometric 318
clinopyroxenes, Ca-free 249
diopside 401
diopsides, (Ca,Sr)- 401
dyscrasite 288
fayalite 308
forsterite 308
grossular 142
pseudowollastonite 401
pyrope 301
richterites, (Na,K)- 101
rutile, blue 338
stishovite 83, 548
tephroite 122, 308
tremolites, (Ca,Sr)- 415
uvarovite 142
Systems,
clinoenstatite-clinoferrosilite, cation ordering and interactions in clinopyroxenes 249
magnetite-ulvöspinel and hematite-ilmenite, influence of magnetic ordering on thermodynamic properties 28

T

Tephroite, Mn_2SiO_4
point defects in –, structural relaxation of 122
Thermal expansion,
of diopside and pseudowollastonite 401
Thermodynamic properties,
bulk modulus and equation of state of minerals 227
displacement parameters in coesite and – 152
enthalpy of Al/Si ordering in framework aluminosilicates from ab initio calculations 15
modelling of the influence of long-range magnetic on –, of FeTi oxides 28
Al/Al avoidance in Al/Si tetrahedral frameworks 457
of dyscrasite at high pressures 288
of ordered (Ca,Fe)-perovskite solid solutions 574
Transmission electron microscopy (TEM, HRTEM),
and defects in Mg-germanate olivine and spinel and their rheology 501
– – – olivines equilibrated with iron at high pressures 485
local atomic structure in amorphosized stishovite and – 83
oriented laihunite defects in oxidized olivines identified by 8
Tremolite,
$Ca_2Mg_5Si8O_{22}(OH)_2$
synthetic (Ca,Sr) –, structural and chemical characterization 4
Tridymite, SiO2,
incommensurately modulated OS phase of 603

U

Uvarovite, $Ca_3Cr_2(SiO_4)_3$
Raman spectra of synthetic 142

V

Vibrational spectroscopy,
cf. Infrared absorption (IR) and Raman spectra
Vivianite, $Fe_3^{2+}(PO_4)_3 * 8H_2O$,
auto-oxidation of 24

W

Water,
detection in minerals by electron energy-loss spectroscopy (EELS) 499
dynamic disorder of – in analcime 282
Wollastonite-type $CeGeO_3$,
high pressure polymorphs at room temperature 1

X

X-ray absorption spectroscopy,
at Al K-edge (XANES) of earth's surface minerals 112
at B K-edge (Xanes) and surface of borates 268
electron energy loss spectroscopy (EELS), at Fe $L_{2,3}$-edge, use of – for determination of iron oxidation state in minerals 323
– – – – –, – Si K-egde and amorphitization of stishovite 83
– – – – –, of minerals, pre-edge fine structures at O K-edge 494
polarized (EXAFS) on nontronite 347
X-ray photoelectron spectroscopy (XPS), vivianite autooxidation detected by 25
– – – – –, chemical characterization of muscovite surfaces by 168
X-ray diffraction,
in situ at high temperature up to 68 GPa in a DAC 434

Z

Zeolites,
analcime, cation mobility and dynamic disorder of water in 282
analcime Al/Si ordering in 556